



SEQUENCE LISTING

<110> Gaiger, Alexander
Cheever, Martin A.
McNeill, Patricia D.
Smithgall, Molly
Moulton, Gus
Vedvick, Thomas S.
Sleath, Paul

<120> COMPOSITIONS AND METHODS FOR WT1
SPECIFIC IMMUNOTHERAPY

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<140> US 09/785,019

<141> 2001-02-15

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Leu Glu Cys Met Thr Trp Asn Gln Met
1                               5

    <210> 279
    <211> 9
    <212> PRT
    <213> Mus musculus

    <400> 279
Leu Gly Gly Gly Gly Gly Cys Gly Leu
1                               5

    <210> 280
    <211> 9
    <212> PRT
    <213> Mus musculus

    <400> 280
Leu Gln Met His Ser Arg Lys His Thr
1                               5

    <210> 281
    <211> 9
    <212> PRT
    <213> Mus musculus

    <400> 281
Met His Gln Arg Asn Met Thr Lys Leu

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1                               5

    <210> 282
    <211> 9
    <212> PRT
    <213> Mus musculus

    <400> 282
Asn Ala Pro Tyr Leu Pro Ser Cys Leu
1                               5

    <210> 283
    <211> 9
    <212> PRT
    <213> Mus musculus

    <400> 283
Asn Leu Gly Ala Thr Leu Lys Gly Met
1                               5

    <210> 284
    <211> 9
    <212> PRT
    <213> Mus musculus

    <400> 284
Asn Leu Tyr Gln Met Thr Ser Gln Leu
1                               5

    <210> 285
    <211> 9
    <212> PRT
    <213> Mus musculus

    <400> 285
Asn Met Thr Lys Leu His Val Ala Leu
1                               5

    <210> 286
    <211> 9
    <212> PRT
    <213> Mus musculus

    <400> 286
Asn Gln Met Asn Leu Gly Ala Thr Leu
1                               5

    <210> 287
    <211> 9
    <212> PRT
    <213> Mus musculus

    <400> 287
Pro Gly Ala Ser Ala Tyr Gly Ser Leu

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1                               5

    <210> 294
    <211> 9
    <212> PRT
    <213> Mus musculus

    <400> 294
Arg Thr Pro Tyr Ser Ser Asp Asn Leu
1                               5

    <210> 295
    <211> 9
    <212> PRT
    <213> Mus musculus

    <400> 295
Arg Val Ser Gly Val Ala Pro Thr Leu
1                               5

    <210> 296
    <211> 9
    <212> PRT
    <213> Mus musculus

    <400> 296
Ser Cys Leu Glu Ser Gln Pro Thr Ile
1                               5

    <210> 297
    <211> 9
    <212> PRT
    <213> Mus musculus

    <400> 297
Ser Cys Gln Lys Lys Phe Ala Arg Ser
1                               5

    <210> 298
    <211> 9
    <212> PRT
    <213> Mus musculus

    <400> 298
Ser Asp Val Arg Asp Leu Asn Ala Leu
1                               5

    <210> 299
    <211> 9
    <212> PRT
    <213> Mus musculus

    <400> 299
Ser Leu Gly Glu Gln Gln Tyr Ser Val

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1                               5

    <210> 300
    <211> 9
    <212> PRT
    <213> Mus musculus

    <400> 300
Thr Cys Gln Arg Lys Phe Ser Arg Ser
1                               5

    <210> 301
    <211> 9
    <212> PRT
    <213> Mus musculus

    <400> 301
Thr Glu Gly Gln Ser Asn His Gly Ile
1                               5

    <210> 302
    <211> 9
    <212> PRT
    <213> Mus musculus

    <400> 302
Thr Leu His Phe Ser Gly Gln Phe Thr
1                               5

    <210> 303
    <211> 9
    <212> PRT
    <213> Mus musculus

    <400> 303
Thr Leu Val Arg Ser Ala Ser Glu Thr
1                               5

    <210> 304
    <211> 9
    <212> PRT
    <213> Mus musculus

    <400> 304
Val Leu Asp Phe Ala Pro Pro Gly Ala
1                               5

    <210> 305
    <211> 9
    <212> PRT
    <213> Mus musculus

    <400> 305
Trp Asn Gln Met Asn Leu Gly Ala Thr

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1                               5

    <210> 306
    <211> 9
    <212> PRT
    <213> Mus musculus

    <400> 306
Tyr Phe Lys Leu Ser His Leu Gln Met
1                               5

    <210> 307
    <211> 9
    <212> PRT
    <213> Mus musculus

    <400> 307
Tyr Gln Met Thr Ser Gln Leu Glu Cys
1                               5

    <210> 308
    <211> 9
    <212> PRT
    <213> Mus musculus

    <400> 308
Tyr Ser Ser Asp Asn Leu Tyr Gln Met
1                               5

    <210> 309
    <211> 6
    <212> PRT
    <213> Homo sapien

    <400> 309
Gly Ala Ala Gln Trp Ala
1                               5

    <210> 310
    <211> 12
    <212> PRT
    <213> Homo sapien

    <400> 310
Ala Ser Ala Tyr Gly Ser Leu Gly Gly Pro Ala Pro
1                               5                               10

    <210> 311
    <211> 15
    <212> PRT
    <213> Homo sapien

    <400> 311
Ala Phe Thr Val His Phe Ser Gly Gln Phe Thr Gly Thr Ala Gly

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```

1              5              10              15

    <210> 312
    <211> 5
    <212> PRT
    <213> Homo sapien

    <400> 312
His Ala Ala Gln Phe
1              5

    <210> 313
    <211> 32
    <212> PRT
    <213> Homo sapien

    <400> 313
Cys His Thr Pro Thr Asp Ser Cys Thr Gly Ser Gln Ala Leu Leu Leu
1              5              10              15
Arg Thr Pro Tyr Ser Ser Asp Asn Leu Tyr Gln Met Thr Ser Gln Leu
                20              25              30

    <210> 314
    <211> 32
    <212> PRT
    <213> Homo sapien

    <400> 314
Arg Ile His Thr His Gly Val Phe Arg Gly Ile Gln Asp Val Arg Arg
1              5              10              15
Val Pro Gly Val Ala Pro Thr Leu Val Arg Ser Ala Ser Glu Thr Ser
                20              25              30

    <210> 315
    <211> 4
    <212> PRT
    <213> Homo sapien

    <400> 315
Arg Tyr Phe Lys
1

    <210> 316
    <211> 14
    <212> PRT
    <213> Homo sapien

    <400> 316
Glu Arg Arg Phe Ser Arg Ser Asp Gln Leu Lys Arg His Gln
1              5              10

    <210> 317
    <211> 22
    <212> PRT

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<213> Homo sapien

<400> 317

Gln	Arg	Lys	Phe	Ser	Arg	Ser	Asp	His	Leu	Lys	Thr	His	Thr	Arg	Thr
1				5					10					15	
His	Thr	Gly	Lys	Thr	Ser										
			20												

<210> 318

<211> 21

<212> PRT

<213> Homo sapien

<400> 318

Cys	Gln	Lys	Lys	Phe	Ala	Arg	Ser	Asp	Glu	Leu	Val	Arg	His	His	Asn
1				5					10					15	
Met	His	Gln	Arg	Asn											
			20												

<210> 319

<211> 449

<212> PRT

<213> Homo sapien

<400> 319

Met	Gly	Ser	Asp	Val	Arg	Asp	Leu	Asn	Ala	Leu	Leu	Pro	Ala	Val	Pro
1				5					10					15	
Ser	Leu	Gly	Gly	Gly	Gly	Gly	Cys	Ala	Leu	Pro	Val	Ser	Gly	Ala	Ala
			20					25					30		
Gln	Trp	Ala	Pro	Val	Leu	Asp	Phe	Ala	Pro	Pro	Gly	Ala	Ser	Ala	Tyr
		35					40					45			
Gly	Ser	Leu	Gly	Gly	Pro	Ala	Pro	Pro	Pro	Ala	Pro	Pro	Pro	Pro	Pro
		50				55					60				
Pro	Pro	Pro	Pro	His	Ser	Phe	Ile	Lys	Gln	Glu	Pro	Ser	Trp	Gly	Gly
65					70					75				80	
Ala	Glu	Pro	His	Glu	Glu	Gln	Cys	Leu	Ser	Ala	Phe	Thr	Val	His	Phe
			85						90					95	
Ser	Gly	Gln	Phe	Thr	Gly	Thr	Ala	Gly	Ala	Cys	Arg	Tyr	Gly	Pro	Phe
			100					105					110		
Gly	Pro	Pro	Pro	Pro	Ser	Gln	Ala	Ser	Ser	Gly	Gln	Ala	Arg	Met	Phe
		115				120						125			
Pro	Asn	Ala	Pro	Tyr	Leu	Pro	Ser	Cys	Leu	Glu	Ser	Gln	Pro	Ala	Ile
	130					135					140				
Arg	Asn	Gln	Gly	Tyr	Ser	Thr	Val	Thr	Phe	Asp	Gly	Thr	Pro	Ser	Tyr
145					150					155					160
Gly	His	Thr	Pro	Ser	His	His	Ala	Ala	Gln	Phe	Pro	Asn	His	Ser	Phe
				165					170					175	
Lys	His	Glu	Asp	Pro	Met	Gly	Gln	Gln	Gly	Ser	Leu	Gly	Glu	Gln	Gln
			180					185					190		
Tyr	Ser	Val	Pro	Pro	Pro	Val	Tyr	Gly	Cys	His	Thr	Pro	Thr	Asp	Ser
		195					200					205			
Cys	Thr	Gly	Ser	Gln	Ala	Leu	Leu	Leu	Arg	Thr	Pro	Tyr	Ser	Ser	Asp
	210					215					220				
Asn	Leu	Tyr	Gln	Met	Thr	Ser	Gln	Leu	Glu	Cys	Met	Thr	Trp	Asn	Gln

[illegible]

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<210> 320
<211> 449
<212> PRT
<213> Mus musculus
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<400> 320															
Met	Gly	Ser	Asp	Val	Arg	Asp	Leu	Asn	Ala	Leu	Leu	Pro	Ala	Val	Ser
1				5					10					15	
Ser	Leu	Gly	Gly	Gly	Gly	Gly	Cys	Gly	Leu	Pro	Val	Ser	Gly	Ala	Ala
			20					25					30		
Gln	Trp	Ala	Pro	Val	Leu	Asp	Phe	Ala	Pro	Pro	Gly	Ala	Ser	Ala	Tyr
		35					40					45			
Gly	Ser	Leu	Gly	Gly	Pro	Ala	Pro	Pro	Pro	Ala	Pro	Pro	Pro	Pro	Pro
	50					55					60				
Pro	Pro	Pro	Pro	His	Ser	Phe	Ile	Lys	Gln	Glu	Pro	Ser	Trp	Gly	Gly
65					70					75					80
Ala	Glu	Pro	His	Glu	Glu	Gln	Cys	Leu	Ser	Ala	Phe	Thr	Leu	His	Phe
				85					90					95	
Ser	Gly	Gln	Phe	Thr	Gly	Thr	Ala	Gly	Ala	Cys	Arg	Tyr	Gly	Pro	Phe
			100					105					110		
Gly	Pro	Pro	Pro	Pro	Ser	Gln	Ala	Ser	Ser	Gly	Gln	Ala	Arg	Met	Phe
		115					120					125			
Pro	Asn	Ala	Pro	Tyr	Leu	Pro	Ser	Cys	Leu	Glu	Ser	Gln	Pro	Thr	Ile
	130					135					140				

Arg Asn Gln Gly Tyr Ser Thr Val Thr Phe Asp Gly Ala Pro Ser Tyr
 145 150 155 160
 Gly His Thr Pro Ser His His Ala Ala Gln Phe Pro Asn His Ser Phe
 165 170 175
 Lys His Glu Asp Pro Met Gly Gln Gln Gly Ser Leu Gly Glu Gln Gln
 180 185 190
 Tyr Ser Val Pro Pro Pro Val Tyr Gly Cys His Thr Pro Thr Asp Ser
 195 200 205
 Cys Thr Gly Ser Gln Ala Leu Leu Leu Arg Thr Pro Tyr Ser Ser Asp
 210 215 220
 Asn Leu Tyr Gln Met Thr Ser Gln Leu Glu Cys Met Thr Trp Asn Gln
 225 230 235 240
 Met Asn Leu Gly Ala Thr Leu Lys Gly Met Ala Ala Gly Ser Ser Ser
 245 250 255
 Ser Val Lys Trp Thr Glu Gly Gln Ser Asn His Gly Ile Gly Tyr Glu
 260 265 270
 Ser Asp Asn His Thr Ala Pro Ile Leu Cys Gly Ala Gln Tyr Arg Ile
 275 280 285
 His Thr His Gly Val Phe Arg Gly Ile Gln Asp Val Arg Arg Val Ser
 290 295 300
 Gly Val Ala Pro Thr Leu Val Arg Ser Ala Ser Glu Thr Ser Glu Lys
 305 310 315 320
 Arg Pro Phe Met Cys Ala Tyr Pro Gly Cys Asn Lys Arg Tyr Phe Lys
 325 330 335
 Leu Ser His Leu Gln Met His Ser Arg Lys His Thr Gly Glu Lys Pro
 340 345 350
 Tyr Gln Cys Asp Phe Lys Asp Cys Glu Arg Arg Phe Ser Arg Ser Asp
 355 360 365
 Gln Leu Lys Arg His Gln Arg Arg His Thr Gly Val Lys Pro Phe Gln
 370 375 380
 Cys Lys Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His Leu Lys Thr
 385 390 395 400
 His Thr Arg Thr His Thr Gly Lys Thr Ser Glu Lys Pro Phe Ser Cys
 405 410 415
 Arg Trp His Ser Cys Gln Lys Lys Phe Ala Arg Ser Asp Glu Leu Val
 420 425 430
 Arg His His Asn Met His Gln Arg Asn Met Thr Lys Leu His Val Ala
 435 440 445
 Leu

<210> 321
 <211> 9
 <212> PRT
 <213> Homo sapien and Mus musculus

<400> 321
 Pro Ser Gln Ala Ser Ser Gly Gln Ala
 1 5

<210> 322
 <211> 9
 <212> PRT
 <213> Homo sapien and Mus musculus

<400> 322
 Ser Ser Gly Gln Ala Arg Met Phe Pro
 1 5

<210> 323
 <211> 9
 <212> PRT
 <213> Homo sapien and Mus musculus

<400> 323
 Gln Ala Arg Met Phe Pro Asn Ala Pro
 1 5

<210> 324
 <211> 9
 <212> PRT
 <213> Homo sapien and Mus musculus

<400> 324
 Met Phe Pro Asn Ala Pro Tyr Leu Pro
 1 5

<210> 325
 <211> 9
 <212> PRT
 <213> Homo sapien and Mus musculus

<400> 325
 Pro Asn Ala Pro Tyr Leu Pro Ser Cys
 1 5

<210> 326
 <211> 9
 <212> PRT
 <213> Homo sapien and Mus musculus

<400> 326
 Ala Pro Tyr Leu Pro Ser Cys Leu Glu
 1 5

<210> 327
 <211> 1029
 <212> DNA
 <213> Homo sapiens

<400> 327
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 tttgacacgg atgtactcaa agcggacggg gcgatcctcg tcgatttctg ggcagagtgg 120
 tgcggtccgt gcaaaatgat cgccccgatt ctggatgaaa tcgctgacga atatcagggc 180
 aaactgaccg ttgcaaaact gaacatcgat caaaaccctg gcactgcgcc gaaatatggc 240
 atccgtggta tcccgaactct gctgctgttc aaaaacgggtg aagtggcggc aaccaaaagtg 300
 ggtgcactgt ctaaagggtca gttgaaagag ttctctgacg ctaacctggc cggttctggt 360

tctggccata	tgcagcatca	ccaccatcac	cacgtgtcta	tcgaaggctc	tgctagctct	420
ggtggcagcg	gtctggttcc	gcgtggtagc	tctggttcg	gggacgacga	cgacaaatct	480
agtaggcaca	gcacagggtg	cgagagcgat	aaccacacaa	cgcccatcct	ctgaggagcc	540
caatacagaa	tacacacgca	cggtgtcttc	agaggcattc	aggatgtgcg	acgtgtgcct	600
ggagtagccc	cgactcttgt	acggtcggca	tctgagacca	gtgagaaacg	ccccttcatt	660
tgtgcttacc	caggctgcaa	taagagatat	tttaagctgt	cccacttaca	gatgcacagc	720
aggaagcaca	ctgggtgagaa	accataaccag	tgtgacttca	aggactgtga	acgaagggtt	780
tttcgttcag	accagctcaa	aagacaccaa	aggagacata	cagggtgtgaa	accattccag	840
tgtaaaactt	gtcagcgaaa	gttctcccgg	tccgaccacc	tgaagaccca	caccaggact	900
catacagggtg	aaaagccctt	cagctgtcgg	tggccaagtt	gtcagaaaaa	gtttgccccg	960
tcagatgaat	tagtccgcc	tcacaacatg	catcagagaa	acatgaccaa	actccagctg	1020
gcgctttga						1029

<210> 328

<211> 1233

<212> DNA

<213> Homo sapiens

<400> 328

atgcagcatc	accaccatca	ccacatgagc	gataaaatta	ttcacctgac	tgacgacagt	60
tttgacacgg	atgtactcaa	agcggacggg	gcgatcctcg	tcgatttctg	ggcagagtgg	120
tgcgggtccgt	gcaaaatgat	cgccccgatt	ctggatgaaa	tcgctgacga	atatcagggc	180
aaactgaccg	ttgcaaaact	gaacatcgat	caaaaccctg	gcactgcgcc	gaaatatggc	240
atccgtggta	tcccgaactct	gctgctgttc	aaaaacggtg	aagtggcggc	aaccaaagtg	300
ggtgcactgt	ctaaagggtca	gttgaaaagag	ttcctcgacg	ctaacctggc	cggttctggg	360
tctggccata	tgcagcatca	ccaccatcac	cacgtgtcta	tcgaaggctc	tgctagctct	420
ggtggcagcg	gtctggttcc	gcgtggtagc	tctggttcg	gggacgacga	cgacaaatct	480
agtaggggct	ccgacgttcg	tgacctgaac	gcactgctgc	cggcagttcc	gtccctgggt	540
ggtggtgggtg	gttgcgcaact	gccggttagc	ggtgcagcac	agtgggctcc	ggttctggac	600
ttcgaccgc	cgggtgcatc	cgcatacggg	tccctgggtg	gtccggcacc	gccgcgggca	660
ccgccgcgc	cgcgcgcgc	gccgcgcac	tccttcacga	aacaggaacc	gagctggggg	720
ggtgcagaac	cgcacgaaga	acagtgcctg	agcgcatcca	ccgttcactt	ctccggccag	780
ttcactggca	cagccggagc	ctgtcgctac	gggcccttcg	gtcctcctcc	gccagccag	840
gcgtcatccg	gccaggccag	gatgtttcct	aacgcgccct	acctgccag	ctgcctcgag	900
agccagcccg	ctattcgcaa	tcagggttac	agcacgggtc	ccttcgacgg	gacgcccagc	960
tacggtcaca	cgccttcgca	ccatgcggcg	cagttcccca	accactcatt	caagcatgag	1020
gatcccatgg	gccagcaggg	ctcgtgggtg	gagcagcagt	actcgggtgc	gccccgggtc	1080
tatggctgcc	acacccccac	cgacagctgc	accggcagcc	aggctttgct	gctgaggacg	1140
ccctacagca	gtgacaattt	ataccaaatg	acatcccagc	ttgaatgcat	gacctggaat	1200
cagatgaact	taggagccac	cttaaagggc	tga			1233

<210> 329

<211> 1776

<212> DNA

<213> Homo sapiens

<400> 329

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tttgacacgg	atgtactcaa	agcggacggg	gcgatcctcg	tcgatttctg	ggcagagtgg	120
tgcgggtccgt	gcaaaatgat	cgccccgatt	ctggatgaaa	tcgctgacga	atatcagggc	180
aaactgaccg	ttgcaaaact	gaacatcgat	caaaaccctg	gcactgcgcc	gaaatatggc	240
atccgtggta	tcccgaactct	gctgctgttc	aaaaacggtg	aagtggcggc	aaccaaagtg	300
ggtgcactgt	ctaaagggtca	gttgaaaagag	ttcctcgacg	ctaacctggc	cggttctggg	360
tctggccata	tgcagcatca	ccaccatcac	cacgtgtcta	tcgaaggctc	tgctagctct	420

```

ggtggcagcg gtctggttcc gcgtagtagc tctggttcgg gggacgacga cgacaaatct 480
agtaggatgg gctccgacgt tctgacctg aacgcactgc tgccggcagt tccgtccctg 540
ggtgggtggg gtggttgcg actgccggtt agcggtagcag cacagtgggc tccggttctg 600
gacttcgcac cgccgggtgc atccgcatac ggttccctgg gtgggtccggc accgccgcgc 660
gcaccgccgc cgccgccgcc gccgccgccg cactccttca tcaaacagga accgagctgg 720
ggtgggtgcag aaccgcacga agaacagtgc ctgagcgcat tcaccgttca cttctccggc 780
cagttcactg gcacagccgg agcctgtcgc tacgggccct tcggtcctcc tccgcccagc 840
caggcgatcat ccggccaggc caggatgttt cctaaccgcgc cctacctgcc cagctgcctc 900
gagagccagc ccgctattcg caatcagggt tacagcacgg tcaccttcga cgggacgccc 960
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gtctatggct gccacacccc caccgacagc tgcaccggca gccaggcttt gctgctgagg 1140
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aatcagatga ccttaggagc caccttaaa ggccacagca cagggtacga gagcgataac 1260
cacacaacgc ccatcctctg cggagcccaa tacagaatac acacgcacgg tgtcttcaga 1320
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gagaccagtg agaaacgccc cttcatgtgt gcttaccagc gctgcaataa gagatatttt 1440
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gacttcaagg actgtgaacg aagggttttt cgttcagacc agctcaaaag acaccaaagg 1560
agacatacag gtgtgaaacc attccagtgt aaaacttgtc agcgaaagtt ctcccggtcc 1620
gaccacctga agaccacac caggactcat acagggtgaaa agcccttcag ctgtcggtgg 1680
ccaagttgtc agaaaaagtt tgcccgttca gatgaattag tccgccatca caacatgcat 1740
cagagaaaca tgaccaaact ccagctggcg ctttga 1776

```

<210> 330

<211> 771

<212> DNA

<213> Homo sapiens

<400> 330

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atgcagcatc accaccatca ccacggctcc gacgttcgtg acctgaacgc actgctgccg 60
gcagttccgt ccctgggtgg tgggtgggtg tgccgactgc cggttagcgg tgcagcacag 120
tgggctccgg ttctggactt cgcaccgccg ggtgcatccg catacggttc cctgggtggg 180
ccggcacccg cgccggcacc gccgccgccg ccgccgccgc cgccgcaact cttcatcaaa 240
caggaaccga gctgggggtg tgcagaaccg cacgaagaac agtgctgag cgcatccacc 300
gttcaacttct ccggccagtt cactggcaca gccggagcct gtcgctacgg gcccttcggg 360
cctcctccgc ccagccaggc gtcattccggc caggccagga tgtttcctaa cgcgccctac 420
ctgccagct gcctcgagag ccagcccgtt attcgcaatc agggttacag cacggtcacc 480
ttcgacggga cgcccagcta cggtcacacg ccctcgcaac atgcggcgca gttccccaac 540
cactcattca agcatgagga tcccatgggc cagcagggct cgctgggtga gcagcagtag 600
tcggtgccgc ccccgtcta tggctgccac acccccaccg acagctgcac cggcagccag 660
gctttgctgc tgaggacgcc ctacagcagt gacaatttat accaaatgac atcccagctt 720
gaatgcatga cctggaatca gatgaactta ggagccacct taaagggtg a 771

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<210> 331

<211> 567

<212> DNA

<213> Homo sapiens

<400> 331

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atgcagcatc accaccatca ccaccacagc acagggtagc agagcgataa ccacacaacg 60
cccattcctt gcggagccca atacagaata cacacgcacg gtgtcttcag aggcattcag 120
gatgtgcgac gtgtgcctgg agtagccccg actcttgtag ggtcggcatc tgagaccagt 180
gagaaacgcc ctttcatgtg tgcttaccga ggctgcaata agagatattt taagctgtcc 240

```

```

cacttacaga tgcacagcag gaagcacact ggtgagaaac cataccagtg tgacttcaag 300
gactgtgaac gaaggttttt tcgttcagac cagctcaaaa gacaccaaag gagacataca 360
ggtgtgaaac cattccagtg taaaacttgt cagcgaaagt tctcccggtc cgaccacctg 420
aagaccaca ccaggactca tacaggtgaa aagcccttca gctgtcggtg gccaagttgt 480
cagaaaaagt ttgcccggtc agatgaatta gtccgccatc acaacatgca tcagagaaac 540
atgaccaaac tccagctggc gctttga 567

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<210> 332

<211> 342

<212> PRT

<213> Homo sapiens

<400> 332

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Met Gln His His His His His His Met Ser Asp Lys Ile Ile His Leu
                    5              10              15
Thr Asp Asp Ser Phe Asp Thr Asp Val Leu Lys Ala Asp Gly Ala Ile
                20              25              30
Leu Val Asp Phe Trp Ala Glu Trp Cys Gly Pro Cys Lys Met Ile Ala
                35              40              45
Pro Ile Leu Asp Glu Ile Ala Asp Glu Tyr Gln Gly Lys Leu Thr Val
                50              55              60
Ala Lys Leu Asn Ile Asp Gln Asn Pro Gly Thr Ala Pro Lys Tyr Gly
                65              70              75              80
Ile Arg Gly Ile Pro Thr Leu Leu Leu Phe Lys Asn Gly Glu Val Ala
                85              90              95
Ala Thr Lys Val Gly Ala Leu Ser Lys Gly Gln Leu Lys Glu Phe Leu
                100             105             110
Asp Ala Asn Leu Ala Gly Ser Gly Ser Gly His Met Gln His His His
                115             120             125
His His His Val Ser Ile Glu Gly Arg Ala Ser Ser Gly Gly Ser Gly
                130             135             140
Leu Val Pro Arg Gly Ser Ser Gly Ser Gly Asp Asp Asp Asp Lys Ser
145              150              155              160
Ser Arg His Ser Thr Gly Tyr Glu Ser Asp Asn His Thr Thr Pro Ile
                165              170              175
Leu Cys Gly Ala Gln Tyr Arg Ile His Thr His Gly Val Phe Arg Gly
                180              185              190
Ile Gln Asp Val Arg Arg Val Pro Gly Val Ala Pro Thr Leu Val Arg
                195              200              205
Ser Ala Ser Glu Thr Ser Glu Lys Arg Pro Phe Met Cys Ala Tyr Pro
                210              215              220
Gly Cys Asn Lys Arg Tyr Phe Lys Leu Ser His Leu Gln Met His Ser
225              230              235              240
Arg Lys His Thr Gly Glu Lys Pro Tyr Gln Cys Asp Phe Lys Asp Cys
                245              250              255
Glu Arg Arg Phe Phe Arg Ser Asp Gln Leu Lys Arg His Gln Arg Arg
                260              265              270
His Thr Gly Val Lys Pro Phe Gln Cys Lys Thr Cys Gln Arg Lys Phe
                275              280              285
Ser Arg Ser Asp His Leu Lys Thr His Thr Arg Thr His Thr Gly Glu
                290              295              300

```

Lys Pro Phe Ser Cys Arg Trp Pro Ser Cys Gln Lys Lys Phe Ala Arg
 305 310 315 320
 Ser Asp Glu Leu Val Arg His His Asn Met His Gln Arg Asn Met Thr
 325 330 335
 Lys Leu Gln Leu Ala Leu
 340

<210> 333
 <211> 410
 <212> PRT
 <213> Homo sapiens

<400> 333
 Met Gln His His His His His His Met Ser Asp Lys Ile Ile His Leu
 5 10 15
 Thr Asp Asp Ser Phe Asp Thr Asp Val Leu Lys Ala Asp Gly Ala Ile
 20 25 30
 Leu Val Asp Phe Trp Ala Glu Trp Cys Gly Pro Cys Lys Met Ile Ala
 35 40 45
 Pro Ile Leu Asp Glu Ile Ala Asp Glu Tyr Gln Gly Lys Leu Thr Val
 50 55 60
 Ala Lys Leu Asn Ile Asp Gln Asn Pro Gly Thr Ala Pro Lys Tyr Gly
 65 70 75 80
 Ile Arg Gly Ile Pro Thr Leu Leu Leu Phe Lys Asn Gly Glu Val Ala
 85 90 95
 Ala Thr Lys Val Gly Ala Leu Ser Lys Gly Gln Leu Lys Glu Phe Leu
 100 105 110
 Asp Ala Asn Leu Ala Gly Ser Gly Ser Gly His Met Gln His His His
 115 120 125
 His His His Val Ser Ile Glu Gly Arg Ala Ser Ser Gly Gly Ser Gly
 130 135 140
 Leu Val Pro Arg Gly Ser Ser Gly Ser Gly Asp Asp Asp Asp Lys Ser
 145 150 155 160
 Ser Arg Gly Ser Asp Val Arg Asp Leu Asn Ala Leu Leu Pro Ala Val
 165 170 175
 Pro Ser Leu Gly Gly Gly Gly Gly Cys Ala Leu Pro Val Ser Gly Ala
 180 185 190
 Ala Gln Trp Ala Pro Val Leu Asp Phe Ala Pro Pro Gly Ala Ser Ala
 195 200 205
 Tyr Gly Ser Leu Gly Gly Pro Ala Pro Pro Pro Ala Pro Pro Pro Pro
 210 215 220
 Pro Pro Pro Pro Pro His Ser Phe Ile Lys Gln Glu Pro Ser Trp Gly
 225 230 235 240
 Gly Ala Glu Pro His Glu Glu Gln Cys Leu Ser Ala Phe Thr Val His
 245 250 255
 Phe Ser Gly Gln Phe Thr Gly Thr Ala Gly Ala Cys Arg Tyr Gly Pro
 260 265 270
 Phe Gly Pro Pro Pro Pro Ser Gln Ala Ser Ser Gly Gln Ala Arg Met
 275 280 285
 Phe Pro Asn Ala Pro Tyr Leu Pro Ser Cys Leu Glu Ser Gln Pro Ala
 290 295 300
 Ile Arg Asn Gln Gly Tyr Ser Thr Val Thr Phe Asp Gly Thr Pro Ser

305					310					315					320
Tyr	Gly	His	Thr	Pro	Ser	His	His	Ala	Ala	Gln	Phe	Pro	Asn	His	Ser
				325					330					335	
Phe	Lys	His	Glu	Asp	Pro	Met	Gly	Gln	Gln	Gly	Ser	Leu	Gly	Glu	Gln
			340					345					350		
Gln	Tyr	Ser	Val	Pro	Pro	Pro	Val	Tyr	Gly	Cys	His	Thr	Pro	Thr	Asp
		355					360					365			
Ser	Cys	Thr	Gly	Ser	Gln	Ala	Leu	Leu	Leu	Arg	Thr	Pro	Tyr	Ser	Ser
	370				375					380					
Asp	Asn	Leu	Tyr	Gln	Met	Thr	Ser	Gln	Leu	Glu	Cys	Met	Thr	Trp	Asn
385				390						395					400
Gln	Met	Asn	Leu	Gly	Ala	Thr	Leu	Lys	Gly						
			405						410						

<210> 334
 <211> 591
 <212> PRT
 <213> Homo sapiens

<400> 334

Met	Gln	His	His	His	His	His	His	Met	Ser	Asp	Lys	Ile	Ile	His	Leu
				5				10						15	
Thr	Asp	Asp	Ser	Phe	Asp	Thr	Asp	Val	Leu	Lys	Ala	Asp	Gly	Ala	Ile
			20				25						30		
Leu	Val	Asp	Phe	Trp	Ala	Glu	Trp	Cys	Gly	Pro	Cys	Lys	Met	Ile	Ala
		35				40					45				
Pro	Ile	Leu	Asp	Glu	Ile	Ala	Asp	Glu	Tyr	Gln	Gly	Lys	Leu	Thr	Val
	50				55					60					
Ala	Lys	Leu	Asn	Ile	Asp	Gln	Asn	Pro	Gly	Thr	Ala	Pro	Lys	Tyr	Gly
	65			70					75						80
Ile	Arg	Gly	Ile	Pro	Thr	Leu	Leu	Leu	Phe	Lys	Asn	Gly	Glu	Val	Ala
			85					90						95	
Ala	Thr	Lys	Val	Gly	Ala	Leu	Ser	Lys	Gly	Gln	Leu	Lys	Glu	Phe	Leu
			100				105						110		
Asp	Ala	Asn	Leu	Ala	Gly	Ser	Gly	Ser	Gly	His	Met	Gln	His	His	His
		115				120						125			
His	His	His	Val	Ser	Ile	Glu	Gly	Arg	Ala	Ser	Ser	Gly	Gly	Ser	Gly
	130				135						140				
Leu	Val	Pro	Arg	Gly	Ser	Ser	Gly	Ser	Gly	Asp	Asp	Asp	Asp	Lys	Ser
145				150					155					160	
Ser	Arg	Met	Gly	Ser	Asp	Val	Arg	Asp	Leu	Asn	Ala	Leu	Leu	Pro	Ala
			165					170						175	
Val	Pro	Ser	Leu	Gly	Gly	Gly	Gly	Gly	Cys	Ala	Leu	Pro	Val	Ser	Gly
		180				185							190		
Ala	Ala	Gln	Trp	Ala	Pro	Val	Leu	Asp	Phe	Ala	Pro	Pro	Gly	Ala	Ser
		195				200						205			
Ala	Tyr	Gly	Ser	Leu	Gly	Gly	Pro	Ala	Pro	Pro	Pro	Ala	Pro	Pro	Pro
	210				215						220				
Pro	Pro	Pro	Pro	Pro	Pro	His	Ser	Phe	Ile	Lys	Gln	Glu	Pro	Ser	Trp
225				230					235						240
Gly	Gly	Ala	Glu	Pro	His	Glu	Glu	Gln	Cys	Leu	Ser	Ala	Phe	Thr	Val
			245					250						255	
His	Phe	Ser	Gly	Gln	Phe	Thr	Gly	Thr	Ala	Gly	Ala	Cys	Arg	Tyr	Gly

			260					265					270		
Pro	Phe	Gly	Pro	Pro	Pro	Pro	Ser	Gln	Ala	Ser	Ser	Gly	Gln	Ala	Arg
		275					280					285			
Met	Phe	Pro	Asn	Ala	Pro	Tyr	Leu	Pro	Ser	Cys	Leu	Glu	Ser	Gln	Pro
	290					295					300				
Ala	Ile	Arg	Asn	Gln	Gly	Tyr	Ser	Thr	Val	Thr	Phe	Asp	Gly	Thr	Pro
305					310					315					320
Ser	Tyr	Gly	His	Thr	Pro	Ser	His	His	Ala	Ala	Gln	Phe	Pro	Asn	His
			325						330					335	
Ser	Phe	Lys	His	Glu	Asp	Pro	Met	Gly	Gln	Gln	Gly	Ser	Leu	Gly	Glu
			340					345					350		
Gln	Gln	Tyr	Ser	Val	Pro	Pro	Pro	Val	Tyr	Gly	Cys	His	Thr	Pro	Thr
		355					360					365			
Asp	Ser	Cys	Thr	Gly	Ser	Gln	Ala	Leu	Leu	Leu	Arg	Thr	Pro	Tyr	Ser
	370					375					380				
Ser	Asp	Asn	Leu	Tyr	Gln	Met	Thr	Ser	Gln	Leu	Glu	Cys	Met	Thr	Trp
385					390					395					400
Asn	Gln	Met	Asn	Leu	Gly	Ala	Thr	Leu	Lys	Gly	His	Ser	Thr	Gly	Tyr
			405						410					415	
Glu	Ser	Asp	Asn	His	Thr	Thr	Pro	Ile	Leu	Cys	Gly	Ala	Gln	Tyr	Arg
			420					425					430		
Ile	His	Thr	His	Gly	Val	Phe	Arg	Gly	Ile	Gln	Asp	Val	Arg	Arg	Val
	435						440					445			
Pro	Gly	Val	Ala	Pro	Thr	Leu	Val	Arg	Ser	Ala	Ser	Glu	Thr	Ser	Glu
	450					455					460				
Lys	Arg	Pro	Phe	Met	Cys	Ala	Tyr	Pro	Gly	Cys	Asn	Lys	Arg	Tyr	Phe
465					470					475					480
Lys	Leu	Ser	His	Leu	Gln	Met	His	Ser	Arg	Lys	His	Thr	Gly	Glu	Lys
			485						490					495	
Pro	Tyr	Gln	Cys	Asp	Phe	Lys	Asp	Cys	Glu	Arg	Arg	Phe	Phe	Arg	Ser
			500					505					510		
Asp	Gln	Leu	Lys	Arg	His	Gln	Arg	Arg	His	Thr	Gly	Val	Lys	Pro	Phe
		515					520					525			
Gln	Cys	Lys	Thr	Cys	Gln	Arg	Lys	Phe	Ser	Arg	Ser	Asp	His	Leu	Lys
	530					535					540				
Thr	His	Thr	Arg	Thr	His	Thr	Gly	Glu	Lys	Pro	Phe	Ser	Cys	Arg	Trp
545					550					555					560
Pro	Ser	Cys	Gln	Lys	Lys	Phe	Ala	Arg	Ser	Asp	Glu	Leu	Val	Arg	His
			565						570					575	
His	Asn	Met	His	Gln	Arg	Asn	Met	Thr	Lys	Leu	Gln	Leu	Ala	Leu	
			580					585					590		

```
<210> 335
<211> 256
<212> PRT
<213> Homo sapiens
```

<400> 335
Met Gln His His His His His His Gly Ser Asp Val Arg Asp Leu Asn
 5 10 15
Ala Leu Leu Pro Ala Val Pro Ser Leu Gly Gly Gly Gly Cys Ala
 20 25 30


```

Leu Pro Val Ser Gly Ala Ala Gln Trp Ala Pro Val Leu Asp Phe Ala
    35          40          45
Pro Pro Gly Ala Ser Ala Tyr Gly Ser Leu Gly Gly Pro Ala Pro Pro
    50          55          60
Pro Ala Pro Pro Pro Pro Pro Pro Pro Pro Pro His Ser Phe Ile Lys
    65          70          75          80
Gln Glu Pro Ser Trp Gly Gly Ala Glu Pro His Glu Glu Gln Cys Leu
    85          90          95
Ser Ala Phe Thr Val His Phe Ser Gly Gln Phe Thr Gly Thr Ala Gly
    100         105         110
Ala Cys Arg Tyr Gly Pro Phe Gly Pro Pro Pro Pro Ser Gln Ala Ser
    115         120         125
Ser Gly Gln Ala Arg Met Phe Pro Asn Ala Pro Tyr Leu Pro Ser Cys
    130         135         140
Leu Glu Ser Gln Pro Ala Ile Arg Asn Gln Gly Tyr Ser Thr Val Thr
    145         150         155         160
Phe Asp Gly Thr Pro Ser Tyr Gly His Thr Pro Ser His His Ala Ala
    165         170         175
Gln Phe Pro Asn His Ser Phe Lys His Glu Asp Pro Met Gly Gln Gln
    180         185         190
Gly Ser Leu Gly Glu Gln Gln Tyr Ser Val Pro Pro Pro Val Tyr Gly
    195         200         205
Cys His Thr Pro Thr Asp Ser Cys Thr Gly Ser Gln Ala Leu Leu Leu
    210         215         220
Arg Thr Pro Tyr Ser Ser Asp Asn Leu Tyr Gln Met Thr Ser Gln Leu
    225         230         235         240
Glu Cys Met Thr Trp Asn Gln Met Asn Leu Gly Ala Thr Leu Lys Gly
    245         250         255

```

<210> 336
 <211> 188
 <212> PRT
 <213> Homo sapiens

```

<400> 336
Met Gln His His His His His His Ser Thr Gly Tyr Glu Ser Asp
    5          10          15
Asn His Thr Thr Pro Ile Leu Cys Gly Ala Gln Tyr Arg Ile His Thr
    20          25          30
His Gly Val Phe Arg Gly Ile Gln Asp Val Arg Arg Val Pro Gly Val
    35          40          45
Ala Pro Thr Leu Val Arg Ser Ala Ser Glu Thr Ser Glu Lys Arg Pro
    50          55          60
Phe Met Cys Ala Tyr Pro Gly Cys Asn Lys Arg Tyr Phe Lys Leu Ser
    65          70          75          80
His Leu Gln Met His Ser Arg Lys His Thr Gly Glu Lys Pro Tyr Gln
    85          90          95
Cys Asp Phe Lys Asp Cys Glu Arg Arg Phe Phe Arg Ser Asp Gln Leu
    100         105         110
Lys Arg His Gln Arg Arg His Thr Gly Val Lys Pro Phe Gln Cys Lys
    115         120         125
Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His Leu Lys Thr His Thr
    130         135         140

```

Arg Thr His Thr Gly Glu Lys Pro Phe Ser Cys Arg Trp Pro Ser Cys
 145 150 155 160
 Gln Lys Lys Phe Ala Arg Ser Asp Glu Leu Val Arg His His Asn Met
 165 170 175
 His Gln Arg Asn Met Thr Lys Leu Gln Leu Ala Leu
 180 185

<210> 337
 <211> 324
 <212> DNA
 <213> Homo sapiens

<400> 337
 atgcagcatc accaccatca ccacggttcc gacgtgcggg acctgaacgc actgctgccg 60
 gcagttccat ccctgggtgg cggtgaggc tgcgcactgc cggttagcgg tgcagcacag 120
 tgggctccag ttctggactt cgcaccgcct ggtgcatccg catacggttc cctgggtggt 180
 ccagcacctc cgcccgaac gccccaccg cctccaccgc ccccgcactc cttcatcaaa 240
 caggaacctc gctgggtgg tgcagaaccg cacgaagaac agtgcctgag cgcattctga 300
 gaattctgca gatatccatc acac 324

<210> 338
 <211> 462
 <212> DNA
 <213> Homo sapiens

<400> 338
 atgcagcatc accaccatca ccaccacgaa gaacagtgcc tgagcgcatt caccgttcac 60
 ttctccggcc agttcactgg cacagccgga gcctgtcgtc acgggccctt cggtcctcct 120
 ccgcccagcc aggcgtcatc cggccaggcc aggatgtttc ctaacgcgcc ctacctgccc 180
 agctgcctcg agagccagcc cgctattcgc aatcagggtt acagcacggt caccttcgac 240
 gggacgccc gctacggtca cagccctcg caccatgcgg cgcagttccc caaccactca 300
 ttcaagcatg aggatcccat gggccagcag ggctcgctgg gtgagcagca gtactcggtg 360
 ccgccccggg tctatggctg ccacaccccc accgacagct gcaccggcag ccaggctttg 420
 ctgctgagga cgccctacag cagtgacaat ttatactgat ga 462

<210> 339
 <211> 405
 <212> DNA
 <213> Homo sapiens

<400> 339
 atgcagcatc accaccatca ccaccaggct ttgctgctga ggacgcccta cagcagtgc 60
 aatttatacc aaatgacatc ccagcttgaa tgcattgacct ggaatcagat gaacttagga 120
 gccaccttaa agggccacag cacagggtac gagagcgata accacacaac gcccatcctc 180
 tgcggagccc aatacagaat acacacgcac ggtgtcttca gaggcattca ggatgtgcga 240
 cgtgtgcctg gactagcccc gactcttgta cggtcggcat ctgagaccag tgagaaacgc 300
 cccttcattg gtgcttacct aggtgcaat aagagatatt ttaagctgtc ccacttacag 360
 atgcacagca ggaagcacac tggtagagaa ccataccagt gatga 405

<210> 340
 <211> 339
 <212> DNA
 <213> Homo sapiens

<400> 340

```

atgcagcatc accaccatca ccaccacagc aggaagcaca ctggtgagaa accataccag 60
tgtgacttca aggactgtga acgaagggtt ttctgttcag accagctcaa aagacaccaa 120
aggagacata caggtgtgaa accattccag tgtaaaactt gtcagcgaaa gttctcccgg 180
tccgaccacc tgaagaccca caccaggact catcacggtg aaaagccctt cagctgtcgg 240
tggccaagtt gtcagaaaaa gtttgcccgg tcagatgaat tagtccgcca tcacaacatg 300
catcagagaa acatgaccaa actccagctg gcgctttga 339

```

<210> 341

<211> 1110

<212> DNA

<213> Homo sapiens

<400> 341

```

atgcagcatc accaccatca ccaccactcc ttcacaaac aggaaccgag ctgggggtggt 60
gcagaaccgc acgaagaaca gtgcctgagc gcattcacgc ttactttctc cgccaggttc 120
actggcacag ccggagcctg tcgctacggg cccttcggtc ctctccgcc cagccaggcg 180
tcatccggcc aggccaggat gtttcctaac gcgccctacc tgcccagctg cctcgagagc 240
cagcccgtca ttcgcaatca gggttacagc acggtcacct tcgacgggac gccagctac 300
ggtcacacgc cctcgacca tgcggcgagc ttcccaacc actcattcaa gcatgaggat 360
cccattggcc agcagggtc gctgggtgag cagcagtact cggtgccgcc ccgggtctat 420
ggctgccaca cccccaccga cagctgcacc ggcagccagg ctttgctgct gaggacgcc 480
tacagcagtg acaatttata ccaaatagaca tcccagcttg aatgcatgac ctggaatcag 540
atgaacttag gagccacctt aaagggccac agcacagggt acgagagcga taaccacaca 600
acgcccaccc tctcgggagc ccaatacaga atacacacgc acggtgtctt cagaggcatt 660
caggatgtgc gacgtgtgcc tggagtagcc ccgactcttg tacggtcggc atctgagacc 720
agtgagaaac gcccttcat gtgtgcttac ccagggtgca ataagagata ttttaagctg 780
tcccacttac agatgcacag caggaagcac actggtgaga aaccatacca gtgtgacttc 840
aaggactgtg aacgaagggt ttttcgttca gaccagctca aaagacacca aaggagacat 900
acaggtgtga aaccattcca gtgtaaaact tgtcagcgaa agttctcccg gtcgaccac 960
ctgaagaccc acaccaggac tcatacaggt gaaaagccct tcagctgtcg gtggccaagt 1020
tgtcagaaaa agtttgcccg gtcagatgaa ttagtccgcc atcacaacat gcatcagaga 1080
aacatgacca aactccagct ggcgctttga 1110

```

<210> 342

<211> 99

<212> PRT

<213> Homo sapiens

<400> 342

```

Met Gln His His His His His Gly Ser Asp Val Arg Asp Leu Asn
                    5              10              15
Ala Leu Leu Pro Ala Val Pro Ser Leu Gly Gly Gly Gly Cys Ala
                20              25              30
Leu Pro Val Ser Gly Ala Ala Gln Trp Ala Pro Val Leu Asp Phe Ala
                35              40              45
Pro Pro Gly Ala Ser Ala Tyr Gly Ser Leu Gly Gly Pro Ala Pro Pro
                50              55              60
Pro Ala Pro Pro Pro Pro Pro Pro Pro Pro His Ser Phe Ile Lys
                65              70              75              80
Gln Glu Pro Ser Trp Gly Gly Ala Glu Pro His Glu Glu Gln Cys Leu

```

Ser Ala Phe 85 90 95

```
<210> 343
<211> 152
<212> PRT
<213> Homo sapiens
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[illegible]

```
<210> 344
<211> 133
<212> PRT
<213> Homo sapiens
```

<400> 344															
Met	Gln	His	His	His	His	His	His	Gln	Ala	Leu	Leu	Leu	Arg	Thr	Pro
				5					10					15	
Tyr	Ser	Ser	Asp	Asn	Leu	Tyr	Gln	Met	Thr	Ser	Gln	Leu	Glu	Cys	Met
			20					25					30		
Thr	Trp	Asn	Gln	Met	Asn	Leu	Gly	Ala	Thr	Leu	Lys	Gly	His	Ser	Thr
		35					40					45			
Gly	Tyr	Glu	Ser	Asp	Asn	His	Thr	Thr	Pro	Ile	Leu	Cys	Gly	Ala	Gln
	50					55					60				
Tyr	Arg	Ile	His	Thr	His	Gly	Val	Phe	Arg	Gly	Ile	Gln	Asp	Val	Arg
	65				70					75				80	
Arg	Val	Pro	Gly	Val	Ala	Pro	Thr	Leu	Val	Arg	Ser	Ala	Ser	Glu	Thr
				85					90					95	
Ser	Glu	Lys	Arg	Pro	Phe	Met	Cys	Ala	Tyr	Pro	Gly	Cys	Asn	Lys	Arg
			100					105					110		
Tyr	Phe	Lys	Leu	Ser	His	Leu	Gln	Met	His	Ser	Arg	Lys	His	Thr	Gly
		115					120					125			

Glu Lys Pro Tyr Gln
130

<210> 345
<211> 112
<212> PRT
<213> Homo sapiens

<400> 345
Met Gln His His His His His His Ser Arg Lys His Thr Gly Glu
 5 10 15
Lys Pro Tyr Gln Cys Asp Phe Lys Asp Cys Glu Arg Arg Phe Phe Arg
 20 25 30
Ser Asp Gln Leu Lys Arg His Gln Arg Arg His Thr Gly Val Lys Pro
 35 40 45
Phe Gln Cys Lys Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His Leu
 50 55 60
Lys Thr His Thr Arg Thr His Thr Gly Glu Lys Pro Phe Ser Cys Arg
 65 70 75 80
Trp Pro Ser Cys Gln Lys Lys Phe Ala Arg Ser Asp Glu Leu Val Arg
 85 90 95
His His Asn Met His Gln Arg Asn Met Thr Lys Leu Gln Leu Ala Leu
 100 105 110

<210> 346
<211> 369
<212> PRT
<213> Homo sapiens

<400> 346
Met Gln His His His His His His Ser Phe Ile Lys Gln Glu Pro
 5 10 15
Ser Trp Gly Gly Ala Glu Pro His Glu Glu Gln Cys Leu Ser Ala Phe
 20 25 30
Thr Val His Phe Ser Gly Gln Phe Thr Gly Thr Ala Gly Ala Cys Arg
 35 40 45
Tyr Gly Pro Phe Gly Pro Pro Pro Pro Ser Gln Ala Ser Ser Gly Gln
 50 55 60
Ala Arg Met Phe Pro Asn Ala Pro Tyr Leu Pro Ser Cys Leu Glu Ser
 65 70 75 80
Gln Pro Ala Ile Arg Asn Gln Gly Tyr Ser Thr Val Thr Phe Asp Gly
 85 90 95
Thr Pro Ser Tyr Gly His Thr Pro Ser His His Ala Ala Gln Phe Pro
 100 105 110
Asn His Ser Phe Lys His Glu Asp Pro Met Gly Gln Gln Gly Ser Leu
 115 120 125
Gly Glu Gln Gln Tyr Ser Val Pro Pro Pro Val Tyr Gly Cys His Thr
 130 135 140
Pro Thr Asp Ser Cys Thr Gly Ser Gln Ala Leu Leu Leu Arg Thr Pro
 145 150 155 160
Tyr Ser Ser Asp Asn Leu Tyr Gln Met Thr Ser Gln Leu Glu Cys Met
 165 170 175

```

Thr Trp Asn Gln Met Asn Leu Gly Ala Thr Leu Lys Gly His Ser Thr
      180      185      190
Gly Tyr Glu Ser Asp Asn His Thr Thr Pro Ile Leu Cys Gly Ala Gln
      195      200      205
Tyr Arg Ile His Thr His Gly Val Phe Arg Gly Ile Gln Asp Val Arg
      210      215      220
Arg Val Pro Gly Val Ala Pro Thr Leu Val Arg Ser Ala Ser Glu Thr
      225      230      235      240
Ser Glu Lys Arg Pro Phe Met Cys Ala Tyr Pro Gly Cys Asn Lys Arg
      245      250      255
Tyr Phe Lys Leu Ser His Leu Gln Met His Ser Arg Lys His Thr Gly
      260      265      270
Glu Lys Pro Tyr Gln Cys Asp Phe Lys Asp Cys Glu Arg Arg Phe Phe
      275      280      285
Arg Ser Asp Gln Leu Lys Arg His Gln Arg Arg His Thr Gly Val Lys
      290      295      300
Pro Phe Gln Cys Lys Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His
      305      310      315      320
Leu Lys Thr His Thr Arg Thr His Thr Gly Glu Lys Pro Phe Ser Cys
      325      330      335
Arg Trp Pro Ser Cys Gln Lys Lys Phe Ala Arg Ser Asp Glu Leu Val
      340      345      350
Arg His His Asn Met His Gln Arg Asn Met Thr Lys Leu Gln Leu Ala
      355      360      365
Leu

```

```

<210> 347
<211> 21
<212> DNA
<213> Artificial Sequence

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```

<220>
<223> Primer

```

```

<400> 347
ggctccgacg tgcgggacct g

```

21

```

<210> 348
<211> 30
<212> DNA
<213> Artificial Sequence

```

```

<220>
<223> Primer

```

```

<400> 348
gaattctcaa agcgccagct ggagtttggt

```

30

```

<210> 349
<211> 21
<212> DNA
<213> Artificial Sequence

```

<220>
 <223> Primer

<400> 349
 ggctccgacg tgcgggacct g 21

<210> 350
 <211> 30
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 350
 gaattctcaa agcgccagct ggagtttggt 30

<210> 351
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 351
 cacagcacag ggtacgagag c 21

<210> 352
 <211> 30
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 352
 gaattctcaa agcgccagct ggagtttggt 30

<210> 353
 <211> 29
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 353
 cacgaagaac agtgcctgag cgcattcac 29

<210> 354
 <211> 32
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

 <400> 354
 ccggcgaatt catcagtata aattgtcact gc 32

 <210> 355
 <211> 24
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Primer

 <400> 355
 caggctttgc tgctgaggac gcc 24

 <210> 356
 <211> 34
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Primer

 <400> 356
 cacggagaat tcatcactgg tatggtttct cacc 34

 <210> 357
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 <212> DNA
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